

## POLICY

### AUTOMATIC FIRE SPRINKLER SYSTEMS

**SCOPE:** These policies shall provide the requirements for the design, installation, testing and inspection of automatic fire sprinkler systems in the Vista Fire Department jurisdiction. In addition to these policies, the following codes and standards, listed in order of precedence, shall apply to automatic fire sprinkler system design, installation, testing and inspection in the jurisdiction:

- City of Vista Municipal Code Ordinance No. 2002-?
- Vista Fire Protection District Ordinance?
- California Fire Code and Appendices, 2007 edition
- California Building Code, Appendices & Standards, 2007 edition
- National Fire Protection Association Standards, 2002 edition
- Standard Drawings and Specifications of Water District having jurisdiction  
(With supplemental amendments)

#### 1.0 PLANS, CALCULATIONS AND MATERIAL SUBMITTALS

- 1.1 **Complete plans for aboveground and underground components should be submitted for approval well in advance of installation. Fire sprinkler plan review takes a minimum of ten business days for the initial submittal.** Review of re-submittals may require up to 10 additional business days.

**Plan approval shall be obtained from the Fire Prevention Division prior to ANY pipe installation.** It is recommended that four (4) sets of drawings be submitted for initial approval. Upon approval, the Fire Prevention Division retains one (1) set. Typical distribution of the remaining sets is: the sprinkler contractor files, general contractor files and one mandatory approved copy maintained on-site. The contractor should provide additional sets as needed for approval stamping. Plan check fees are required at time of plan submittal. Plans will not be reviewed until all fees are paid.

Plan submittals must include both underground and aboveground plans and calculations. Approval of underground plans requires separate submittal that shall conform to the requirements of NFPA 24. The sprinkler systems permit to install will not be issued until underground plans have been approved.

- 1.2 If necessary, fire sprinkler plans may be sent to a Fire Department approved sprinkler plan check consultant for review prior to fire department approval. Standard fees are established to recover consultant fees and to recover reasonable costs involved in site inspections. Fees must be paid before approved plans may be released. If additional plan reviews are necessary, the sprinkler contractor will be responsible for paying the additional fees prior to picking up the plans.
- 1.3 The sprinkler contractor must conspicuously identify on the plans all firms involved in plan preparation, including consultants. Plan check consultants working on behalf of the fire department are prohibited from reviewing projects in which they participate.

1.4 Plans shall include all required notes:

**NOTES FOR NFPA 13 SYSTEMS**

**Place the following notes on the plan:**

1. Scope of work for the project: \_\_\_\_\_.
2. Sprinkler plans shall be approved prior to the Installation of any pipe. A set of approved plans shall be maintained at all times at the construction site.
3. This automatic fire protection system shall be designed, fabricated, and Installed in accordance with NFPA 13 and local amendments.
4. The point of connection shall be above grade, at the exterior of the building.
5. All materials used in this Installation shall be listed by a nationally recognized testing laboratory for service in a fire protection system.
6. Only new listed fire sprinklers shall be installed in the fire sprinkler system.
7. Penetrations of rated corridors, walls, and assemblies shall be sealed in accordance with the 2001 CFC.
8. A stock of spare fire sprinklers of each style, type and temperature rating along with a sprinkler wrench shall be located at the main system riser or other approved location.
9. All valves shall have a permanently affixed sign indicating function and building protected.
10. All commercial sprinkler systems shall be monitored for water flow and tamper by a Listed Central Station or proprietary monitoring station except one and two family dwellings with less than 100 sprinklers.
11. All underground mains and lead in connections shall be flushed in accordance with NFPA 13 and 24 prior to connection to the overhead system and shall be witnessed by the Fire Inspector.
12. All inspection requests shall be made at least two working days in advance. Inspection requests must include the address, the permit number, the type of inspection and an on-site contact telephone number. The inspection request phone line is (760) 639-6140.
13. The installer shall perform all required acceptance tests in the presence of the Fire Inspector.
14. All system piping shall be hydrostatically tested for two hours at 200 psi or at 50 psi above the system operating pressure, whichever is greater.
15. **Note: Water supplies shall be tested and appropriately treated if necessary for the presence of microbiologically influenced corrosion prior to filling or testing of metallic piping. A copy of the testing report shall be provided to the Fire Prevention Bureau prior to hydrostatic test.**

**Building Information (all blanks must be completed)**

Building Occupancy Classification(s): \_\_\_\_\_ Building Square Footage: \_\_\_\_\_  
 Ceiling Construction Type (x one): Obstructed \_\_\_\_\_ Unobstructed \_\_\_\_\_

**Fire Sprinkler Design Criteria (all blanks must be complete)**

Hydraulic Design Density: \_\_\_\_\_ gpm/ft<sup>2</sup> Area of Operation: \_\_\_\_\_ ft<sup>2</sup>

**Fire Sprinklers**

Manufacturer _____	Model _____	Orifice Size _____	K-Factor _____	Temp. _____
Manufacturer _____	Model _____	Orifice Size _____	K-Factor _____	Temp. _____
Manufacturer _____	Model _____	Orifice Size _____	K-Factor _____	Temp. _____
Manufacturer _____	Model _____	Orifice Size _____	K-Factor _____	Temp. _____

**Hydraulic Information (all blanks must be completed)**

Flow Test: Location \_\_\_\_\_ Date \_\_\_\_\_ Elevation \_\_\_\_\_  
Static Pressure \_\_\_\_\_ Residual Pressure \_\_\_\_\_ Flow \_\_\_\_\_  
System Requirements: Base of Riser Pressure \_\_\_\_\_ Flow \_\_\_\_\_ Safety Margin \_\_\_\_\_ psi

- 1.5 Complete listing and manufacturers data sheets for all system materials shall be included with all underground and sprinkler system plan submittals. All system materials must be listed for the intended use and shall be approved by the Fire Prevention Division prior to installation.
- 1.6 Plans and supportive data (calculations and manufacturers data sheets) shall be submitted by the **installing** contractor. The following are State licenses required per the California State Licensing Board:

**UNDERGROUND PIPING**

- (A) General Engineering Contractor
- (C-16) Fire Protection Contractor (private side only)
- (C-34) Pipeline Contractor
- (C-36) Plumbing Contractor

**OVERHEAD PIPING**

- (C-16) Fire Protection Contractor

Plans shall show the current State Contractor License number and category of the installing contractor.

- 1.7 Plans shall indicate all necessary engineering features, including **all** hydraulic reference nodes, pipe lengths and pipe diameters as required by the above named codes and standards.
- 1.8 **Complete** detailed work sheets, as required by NFPA 13 Section 8-3.3 shall be included with all submittals for hydraulically designed sprinkler systems. Calculations shall extend to the point at which the water supply data was determined.
- 1.9 For commercial and industrial occupancies commonly referred to as "spec. buildings" with the potential for high-piled storage wherein no specific end use is identified at the time of plan check, the sprinkler system shall provide a minimum density of .45 GPM/sq. ft. for a 3,000 square foot design area. 286° F sprinkler heads shall be used in these buildings. Roof coverage over mezzanine areas shall also be built to this standard.

It is the responsibility of the sprinkler system designer to advise the building owner that the above density and design area are minimums for spec. buildings and that a greater density may be required based on future occupancy hazard classification, storage commodity classification and storage configuration.

- 1.10 A flow diagram shall be provided for all grid sprinkler systems to indicate flow quantities and directions for lines with sprinklers operating in the remote area. Show all directional arrows on the grid and include all hydraulic reference nodes on flow diagrams. See NPFA 13 Section 8-4.4.2.

- 2.0 UNDERGROUND COMPONENTS, POST INDICATOR VALVES AND FIRE DEPARTMENT CONNECTIONS. SEE VFD GUIDELINE G-06: “Underground Piping for Private Hydrants & Fire Sprinkler Supply”**
- 2.1 Plans for underground system must be approved by the fire department and the water purveyor prior to commencement of work or request for inspection. Approval of grading, site or improvements plans is not an approval to install private underground water supply systems.
- 2.2 Any connection to Water District lines requires authorization, inspections and engineered improvement plans approved by the Water District having jurisdiction, and the Fire Prevention Division, prior to the commencement of any installation and/or connection.
- 2.3 Where applicable, a private waterline and hydrant agreement must be executed among the following: the Water District, the City Council and the fire department. The water district initiates the process upon specific application by the developer.
- 2.4 Thrust blocks shall be to Water District engineering standard drawings and specifications and NFPA 24.
- 2.5 Minimum depth of bury to top of private fire service main is 36 inches per Water District engineering standards and NFPA Standards. Bedding and backfill shall be to Water District engineering standard drawings and specifications and to manufacturer’s specifications.
- 2.6 Underground hydrostatic tests will be at 200 psi for two (2) hours. Additional test criteria may be imposed by the Water District.
- 2.7 A swing check valve shall be installed on the water utility main side of the fire department connection (FDC).
- 2.8 All systems require a post indicator valve (PIV) as the sole control valve, located away from the building at a location approved by the Fire Marshal, minimum forty (40) feet from the structure or across the fire lane. Wall mounted OS&Y valves may be provided if approved by the Fire Marshal. Fire department connections (FDC) shall be co-located with the control valve, or in a location approved by the Fire Marshal. FDCs and PIVs shall be visible, accessible and installed with the top between 30” and 36” above the finished grade. With prior approval, the reduced pressure detector assembly (RPDA) may be used as a control valve only when there are no on-site fire hydrants served by the RPDA.
- 2.9 Post indicator valves (PIV), private fire hydrants and fire department connections (FDC) shall be painted OSHA red. RPDAs shall be painted OSHA red when used as the system control valve.
- 2.10 All fire sprinkler system control valves are required to be supervised for tamper and locked in the open position. Supervision shall be electronic from a listed Central Station or a constantly attended location. The only approved padlock is the Master Lock “break away” model 500KABRK with key #197. Keys to the padlock are to be placed in the Knox key security box and in the spare sprinkler cabinet.

- 2.11 When the total system demand, including hose allowance, is less than 1,000 GPM the fire the fire department connection riser shall be minimum 4 inches in nominal diameter and shall have two (2) standard 2 ½ inch threaded connects.
- 2.12 When the total system demand, including hose allowance, is 1,000 GPM to 1500 GPM the fire department connection riser shall be minimum 6 inches in nominal diameter and shall have standard 3-way 2 ½ inch threaded connects.
- 2.13 When the total system demand, including hose allowance, is greater than 1500 GPM the fire department connection riser shall be minimum 6 inches in nominal diameter and shall have standard 4-way 2 ½ inch threaded connects.
- 2.14 Under most circumstances, each separate building will require a separate post indicator valve or RPDA and fire department connection.
- 2.15 Each post indicator valve and related fire department connection shall be labeled with a sign identifying the building or building portion served by that FDC/PIV. Sign criteria and examples of signs appear in an appendix of this policy. See Appendix 5.5 of this policy.
- 2.16 Fire department connections shall be located along fire apparatus access ways in locations approved by the Fire Marshal. (see 2.20)

### **3.0 ABOVEGROUND COMPONENTS**

- 3.1 Alarm bells shall be located on the street address side of the buildings in locations approved by the Fire Prevention Division, generally opposite the fire department connection and post indicator valve. Minimum bell size is 10”.
- 3.2 All system risers shall be installed with a water flow indicator which sounds an alarm at a central station listed for fire monitoring by Underwriters Laboratory, or approved by Vista Fire Department. Means of signal transmission must meet Vista Fire Department standards. (see Appendix 5.7) Water flow switches shall be of the delay type. The delay setting shall be set between 60 and 90 seconds. A 90 second delay is recommended for areas subject to large water pressure fluctuations.
- 3.3 All system risers shall be located inside of buildings, unless approved by the Fire Marshal.
- 3.4 All control valves on all systems must meet supervision criteria listed in Section 2.14 and Appendix 5.6 of this policy document.
- 3.5 The discharge area for the main drain shall be protected with a concrete splash pad or similar device to dissipate the energy of the flow during periodic testing. Provisions shall be made to minimize water damage to buildings or landscaping during such tests.
- 3.6 Sprinklers with a temperature rating of not less that 212° F are required in all main electrical panel and meter rooms. Use of water deflectors is recommended and may be required by the electrical utility. No combustible materials may be stored in this room.

- 3.7 The inspector's test valve(s) shall be located within the most remote hydraulic demand area. The discharge from the inspector's test orifice shall be protected with a concrete splash pad or other mechanism to prevent damage to landscaping or building during periodic testing.
- 3.8 A pressure relief valve shall be installed on all grid sprinkler systems.
- 3.9 A means to bleed off trapped air within the piping of grid sprinkler systems shall be provided.
- 3.10 Light fixtures and other potential obstructions shall not interfere with the engineered spray pattern of sprinkler heads. Sprinkler contractor shall insure that the type and location of potential obstructions is considered in the design and installation of the system. The sprinkler contractor is responsible for coordinating and resolving conflicts in coverage patterns.

#### 4.0 INSPECTIONS AND TESTS

- 4.1 No building required to have an automatic fire protection system shall pass final building inspection or be allowed occupancy until the fire protection system has passed final fire inspection.
- 4.2 The Fire Prevention Division shall require a **completed** 'CONTRACTOR'S MATERIAL & TEST CERTIFICATE FOR ABOVEGROUND PIPING" as shown in NFPA 13 at the time of final aboveground inspection. Aboveground sprinkler system piping will not pass final inspection until this certificate is received by the Fire Prevention Division.
- 4.3 The Fire Prevention Division will require the following inspections and tests. Approved plans must be on-site or inspections will be canceled.
  1. UNDERGROUND CONSTRUCTION INSPECTION: This inspection is done prior to pouring thrust blocks and center loading pipe. All underground materials and compacted sand base must be visible. Thrust block forms shall be inspected prior to pouring.
  2. UNDERGROUND HYDROSTATIC TEST AND FLUSH: Tested to Vista Fire Department and any applicable Water District specifications. Hydrostatic test will be at 200 psi for two hours. (Note that the Water District test criteria may be more restrictive.) **Clean** backfill must be on site for inspection.
  3. OVERHEAD MATERIALS AND PIPE WELD INSPECTION: Prior to installation all pipe with welded fittings shall be inspected for strict compliance with NFPA 13. Any pipe with welded fittings installed prior to inspection shall be removed and inspected on the ground. (*This inspection may be waived by the Fire Marshal.*)
  4. OVERHEAD INSTALLATION INSPECTION AND HYDROSTATIC TEST: Hydrostatic test per NFPA 13, all areas must be visible. Schedule inspection before drywalling occurs. Compliance with approved plans, spacing, hangers and seismic bracing, etc.

5. FINAL INSPECTION(S): Compliance with approved plans, waterflow and tamper switch test, main drain test, **completed** Contractors Material and Test Certificates provided. Copy of NFPA 13A, spare sprinkler heads and wrench provided, bell and valve signs, PIV and FDC building identification signs and Central Station monitoring fully functional.
- 4.4 All underground private fire service main inspections and overhead inspections will be conducted by the Fire Prevention Division. All inspections shall be scheduled with the Fire Prevention Division at least two full working days in advance. The inspection request phone number is (760) 639-6140. Inspection requests shall include the type of inspection, the site address, the permit number and an on-site contact phone number.
- 4.5 "Off-hours" inspections may be scheduled at the discretion of the Fire Marshal at a rate equal to the current senior fire inspector overtime rate plus a City overhead administrative fee, as determined by the Finance Department. A minimum of two hours is charged, with the fees payable to the City of Vista, paid in advance of the inspection.
- 4.6 **This policy is subject to revision. Please confirm that you possess the most recent edition by contacting the Fire Department Development Services Section at (760) 726-1340 extension 2046.**

POLICY APPROVAL:

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Gary Fisher  
Fire Chief

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Phil Paige  
Deputy Chief/Fire Marshal

## 5.0

**APPENDICES**

- 5.1 Plan Check and Inspection Fee Schedule
- 5.2 Tenant Improvement Submittal Requirements
- 5.3 Sprinkler System Control Valves – single & multiple systems
- 5.4 PIV/FDC Building/System Identification Signs
- 5.5 Sprinkler System Monitoring and Alarms
- 5.6 Control Valve Supervision Criteria
- 5.6.1 Central Station Monitoring Requirements

*The following are available upon request:*

- Residential Sprinkler Plan Checklist
- NFPA 13-D Modifications and Clarifications
- NFPA 13-R Modifications and Clarifications
- Adopting Ordinance: City of Vista
- Adopting Ordinance: Vista Fire Protection District

## Appendix 5.1 Plan Check and Inspection Fee Schedule

**Note: Fees in the Vista Fire Protection District may be different than indicated below. Call the Fire prevention bureau for the current fee schedule.**

### COMMERCIAL FIRE SPRINKLER SYSTEMS (New Installations)

UBC Standard 38-1; NFPA 13

The Plan Check and Inspection Fee shall be computed using the **total** building square footage, based on the following schedule:

Initial Sprinkler plan review and Site Inspections:

10,000 square feet or less	\$ 251
10,001 TO 50,000 sq. ft.	\$ 314
50,001 TO 100,000 sq. ft.	\$ 403
1001,001 and above	\$ 531

### COMMERCIAL FIRE SPRINKLER SYSTEMS (Tenant Improvements)

UBC Standard 38-1; NFPA 13

The Plan Check and Inspection Fee shall be computed using the total number of sprinkler heads added, changed and/or relocated.

Initial Sprinkler plan review and site inspections:

1-15 FIRE SPRINKLER HEADS	\$ 120
16-30 FIRE SPRINKLER HEADS	\$ 157
31 OR MORE HEADS	CHARGED AS NEW SYSTEM

## Appendix 5.2 TENANT IMPROVEMENT Submittal Requirements

### 1.0 SUBMITTALS

1.1 **Any** modification of an existing sprinkler system, including tenant improvements, requires fire department plan check and approval prior to initiating the work.

Simple tenant improvements which, in our opinion, do not necessitate review by a plan check consultant, are charged the basic TI rate.

Complex or more extensive system expansions or modifications are charged at the full rate for an initial review, including site inspection fees.

Complete plans should be submitted for approval well in advance of the installation. Fire sprinkler system plan review takes approximately two weeks. Plans are reviewed in the order received; no over-the-counter plan reviews can be provided.

Three (3) sets of drawings shall be submitted for initial approval. Upon approval, one (1) set is retained by the fire department. One approved set is required to be maintained on site, or inspections are canceled. The contractor should provide additional sets as needed.

- 1.2 The following items are required on tenant improvement sprinkler system plans.
- Name of owner and occupant, hazard classification, type of business
  - Building location, street address, suite number
  - Sprinkler contractor name, address, phone, C-16 license number
  - Existing system hazard classification, density, size of design area
  - Point of compass
  - Legend of all symbols used
  - Scale of all drawings
  - Make, type, temperature rating and nominal orifice size of all sprinkler heads
  - Number of each type of new sprinkler head
  - Location of existing and new pipe
  - Section views may be required when necessary to demonstrate piping path
  - Existing and new pipe length, diameter, type and schedule of wall thickness
  - Type and location of hangers, sleeves, braces and methods of securing sprinklers where applicable
  - Location of all walls, partitions and doorways. Indicate height of all partitions.
  - Indicate fire rating of all rated walls and doors.
  - Method and point of connection to existing piping.
  - Existing and planned storage height, configuration and commodity classification.
  - Type of a fittings and joints and location of all welds and bends

Additional items required:

- Location and design area relative to proposed modifications for existing hydraulically calculated systems.
  - Use of each room
- 1.3 Complete manufacturers data sheets for all system materials shall be included with all sprinkler system plan submittals. All system materials shall be approved by the Fire Prevention Division.
- 1.4 Complete detailed work sheets for alterations to hydraulically designed sprinkler systems may be required at the discretion of the Fire Marshal. Calculations shall extend to the point at which the water supply data was determined. Plans shall indicated all necessary engineering features, including all hydraulic reference nodes, pipe lengths and pipe diameters.

## **2.0 INSPECTIONS**

- 2.1 All inspections shall be scheduled with the Fire Prevention Division at least one working day in advance. Phone the business office during weekday work hours (7am to 5pm) at 760 639-6140 to schedule all inspections. When workloads are excessive, the department may not be able to accommodate requests for next-day inspections. Fire Department emergency operations take precedence over all routine activities.

- 2.2 “Off hours” inspections may be scheduled at the discretion of the Fire Marshal at a rate equal to the Senior Fire Inspector overtime rate, plus a City overhead administrative fee, as determined by the Finance Department.
- 2.3 Minimum site inspections: *(Approved plans must be on site, or inspections will be canceled.)*
1. Overhead Pipe Weld Inspections: Prior to installation, all new pipes with welded fittings shall be inspected for strict compliance with NFPA 13. Any new pipe with welded fittings installed prior to inspection shall be removed and inspected on the ground.
  2. OVERHEAD INSTALLTION INSPECTION AND HYDROSTATIC TEST: Hydrostatic test per NFPA 13 may be required, depending on the extent of the work. All areas must be visible during overhead inspection. Schedule inspections before drywalling occurs. Compliance with approved plans, proper spacing, hangers, seismic bracing etc. will be evaluated.
  3. FINAL INSPECTION: A final inspection is conducted prior to release of the tenant improvement Certificate of Occupancy. All installation activities must be completed, and all system components, including signs, bells, Knox locks, monitoring, etc. must be fully functional.

### Appendix 5.3

## **SPRINKLER SYSTEM CONTROL VALVES**

Single & Multiple riser systems

### **SINGLE RISER SYSTEMS**

A post indicator valve or the RPDA (with approval) shall be the sole fire sprinkler control valve on the building side of the Water District gate valve. The minimum number of valves possible shall be installed, thus creating the least number of possible system compromises through accidental or intentional closing.

The post indicator valve shall be located at least 40 feet from the building served, or as an alternative, across the fire access road from the building. A fire department connection shall be installed at the same location as the PIV. The use of wall mounted PIVs or interior riser control valves shall be permitted only if approved by the Fire Marshal.

PIV and FDCs shall be protected by landscaping planters, and shall be located at least two (2) feet behind the face of the curb. Greater distance will be required where the potential for damage is apparent.

### **MULTIPLE RISER SYSTEMS**

Buildings with multiple risers shall be served by clustered post indicator valves located away from the building as described above. One fire department connection will be manifolded to serve all post indicator valves. It will be sized to support at least two zones or risers flowing simultaneously.

In the case of multiple risers and clustered PIVs, the sequence of hardware from public main to riser shall be

water main – check valve (RPDA) – manifold FDC – PIVs – parallel UG runs – risers

With the FDC located on the supply side of the PIV, the inability to pump around a closed PIV is recognized. This potential problem is outweighed by two factors: 1. the immediate accessibility of the PIV to determine and correct its status; 2. the simplicity of a single FDC, utilized regardless of which riser is flowing. It also eliminates the fireground challenge of recognizing expansion of a fire beyond the first system, determining which FDC serves that system and connecting to the second FDC.

A single exterior bell is required at the exterior wall in the vicinity of the PIV/FDC. Any riser flow switch will activate the bell. Each individual flow switch shall be connected to a strobe light representing that riser/zone and mounted on the exterior in the vicinity of the bell.

A sign mounted at the strobe light positions shall indicate the area of the building represented by each strobe. Language or graphic shall correspond to a sign mounted on each PIV.

### **ADDITIONAL CONTROL VALVES**

Where it is desired or required that additional control valves be provided (such as for rack sprinklers) the control valves and waterflow indicators shall be installed as prescribed above. *(Exceptions: Spray booths and commercial-type cooking equipment protection. Control valves must be indicating type and supervised in an approved manner.)*

Appendix 5.4

**SPRINKLER SYSTEM IDENTIFICATION SIGNS**

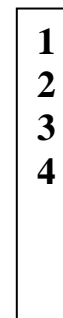
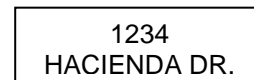
**1.0 SIGN CONSTRUCTION**

All signs are to be made of aluminum. Lettering shall be with high or intermediate performance opaque vinyl. Signs are to be secured to the riser, FDC or PIV or to the building in a secure manner. Sign placement should be approved by the fire department prior to permanent installation.

**2.0 POST INDICATOR SIGNS**

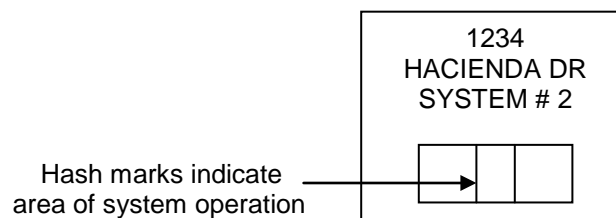
**2.1 Single PIV**

- 1" block lettering
  - Red lettering
  - White background
- Or, as an alternative:
- 3" (or larger) reflective address numbers mounted vertically on the PIV post.



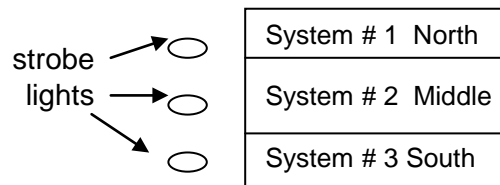
**2.2 Multiple PIVs**

- 1" block lettering
- Red lettering
- White background



**3.0 Bell Signs**

- 3" block lettering
- Red lettering
- White background



**4.0 MULTIPLE RISER IDENTIFICATION SIGNS**

- 1” block lettering
- Red lettering
- White background

System # 2 North

**5.0 MULTIPLE SYSTEM INSPECTOR TEST VALVE SIGNS**

- 1” block lettering
- Red lettering
- White background

Inspector’s Test  
System #2 North

**6.0 RPDA (double detector check)**

- 2” block lettering
- Red lettering
- White background

1234  
HACIENDA DR.

Appendix 5.5

**SPRINKLER SYSTEM MONITORING AND ALARMS**

A “**notification system**” that transmits waterflow, tamper and trouble signals to a central station is required. The system shall comply with the requirements of CFC 1003.3 as amended. It is not our intention to require the installation of a **fire alarm system** where one is not required by other sections of the CFC or CBC. The basic functions of this system shall be:

1. Water flow alarm signal transmission
2. Control valve supervision
3. Exterior sprinkler flow alarm bell
4. Interior sprinkler flow alarm in a normally occupied area.\*

\* The separate interior alarm required for the notification system is not required when the sprinkler water flow switch activates the building **fire alarm system** when one is provided.

Appendix 5.6

**CONTROL VALVE SUPERVISION CRITERIA**

**BASIC VALVE SUPERVISION**

All fire sprinkler system control valves are required to be supervised.  
*Approved supervision* has been determined to be:

1. Electronic supervision from a constantly attended location.
2. In existing construction only, Knox brand high security weather-resistant padlocks keyed to VFD’s exclusive code when approved by the Fire Marshal.

## PERIODIC TESTING; FAILURE CONSEQUENCES

The fire department will conduct periodic unannounced tests to verify compliance with the specific reporting criteria. Failure to pass any test element will result in the owner being required to purchase and maintain a Knox brand weather-resistant padlocked keyed to VFD specifications on each control valve.

If the central station, or other approved location fails to report the tamper signal to the building occupant/owner correctly within ten (10) minutes of the initiating action, the test is considered as a failure.

### Appendix 5.6.1

## CENTRAL STATION MONITORING REQUIREMENTS

### ACCEPTABLE CENTRAL STATIONS

All monitoring concerns listed for fire monitoring by Underwriters Laboratories, or proprietary monitoring systems.

### FIRE ALARM REPORTING TIME REQUIREMENTS

The fire agency dispatch center must receive the complete alarm signal information within five (5) minutes, measured from the initiating action (opening of the Inspector's Test Valve or activation of a smoke detector or pull station).

Activations included in the maximum allowable time period are: initiation of local alarm, transmission to the central station, processing and completed telephonic reporting to the fire dispatcher.

Tests of Central Station monitoring are considered as "failed" if the protected premise is called prior to reporting the alarm to the Fire Agency Dispatch Center.

The fire department will conduct unannounced tests of Central Station monitoring to verify that reporting meets standards.

### SYSTEM TYPE / METHOD OF SIGNAL TRANSMISSION

Two types of signal transmission are acceptable to Vista Fire Department for required monitoring of sprinkler systems or fire detection/evacuation systems:

#### *Active Multiplex Systems*

Fully meeting NFPA Standard 72 – 2002 edition, Chapter 8  
Type 1 & 2 systems only. (Type 3 system is not acceptable.)

#### *Digital Alarm Communicator Systems*

Fully meeting NFPA Standard 72 – 2002 edition, Chapter 8, including the ability to capture two (2) business phone lines at the protected premises. Those phone lines must be kept active.

### REPORTING DETAILS

For each protected premise, the alarm-monitoring firm must obtain VFD approval of the specific language, including address and area description, used to report sprinkler activation to the Fire Agency Dispatch Center.